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IDENTIFIERS *Optacons; Telesensory Systems Incorporated

ABSTRACT

This document summarizes the activities conducted by Telesensory Systems, Inc. (TSI) from July 1974 to July 1975. During this time, TSI worked on maintenance and updating of the Optacon (Optical-to-Tactile Converter) and Optacon peripheral equipment. The Optacon is a direct-translation device which allows the blind to read normal printed materials. TSI completed scheduled visits to all field trial sites and serviced Optacon equipment as needed. The text of the document provides a brief outline of these activities, and the appendix gives a detailed accounting of the maintenance operations that were performed on each device. (EMH)

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PROGRESS REPORT IV

FINAL REPORT

Contract No. OEC-0-74-0583

MANUFACTURE OF OPTACONS FOR A FIELD TRIAL WITHIN ELEMENTARY AND SECONDARY SCHOOLS

October 23, 1974

U.S. DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE
OFFICE OF EDUCATION
BUREAU OF RESEARCH

IR003253

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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OE Bureau of Research No.:

OE Contract No.: OEC-0-74-0583

Period: July 24, 1974 - October 23, 1974

Name of Institution: TELESENSORY SYSTEMS, INC.

Title of Project: Manufacture of Optacons for a field trial within elementary and secondary schools

Principal Project Director: James C. Bliss

1. MAJOR ACTIVITIES AND ACCOMPLISHMENTS DURING THIS PERIOD

The objectives of this contract are:

(A) The maintenance and updating of fifty-three Optacons, twenty-one Tracking Aids, seven Optacon Cassette Trainers and nineteen Visual Display monitors.

(B) Service Site Visits.

(C) Comprehensive Service Plan to provide service upon detection of a malfunction.

Activities during the quarter consisted primarily of maintenance and updating of equipment (A), completion of scheduled visits to all field trial sites (B), and providing service upon detection of a malfunction (C).

These major activities and accomplishments during the quarter are described briefly below:

(a) Service activities: Table 1 gives all service reports on equipment covered by the contract between July 24, 1974 and October 23, 1974.

(b) Equipment check visits to AIR sites: Second visits to each AIR site were completed during the quarter. Reports on these visits are listed in Appendix 1.

2. PROBLEMS

(A) In Progress Reports II and III it was stated that the Optacon Cassette Trainer, serial number C501-004, had been shipped by Franklin Institute Research Laboratories on December 18, 1973 and had not been received at Telesensory Systems, Inc. This piece of equipment has never been received.

(B) A problem was pointed out by the administrators and teachers of the Optacon training programs that since the disposition of the equipment was not assured, teacher assignments could not be made.

(C) A site visit was paid to the Houston Independent School District, Houston, Texas, and the Optacons were checked out. However, it was difficult to conduct this checkout since the Visual Display unit assigned to this program was missing and could not be located by the teacher (see site visit reports in Appendix I).

3. SIGNIFICANT FINDINGS AND EVENTS

The significance of a maintenance program is to minimize equipment problems so that the actual tasks of training and educating can receive the focus of the program and that programs are not frustrated by equipment malfunction. Therefore, serious attention should be given to the continuous maintenance of the Optacons after the termination of this contract. Telesensory Systems recommends that the schools commit to the purchase of Service Agreements for the equipment that the Office of Education allocates to them.

4. DISSEMINATION ACTIVITIES

Southwestern Regional Conference, American Association of Workers for the Blind, Houston, Texas August 5 - 7, 1974

Fifth General Assembly of the World Council for the Welfare of the Blind, Sao Paulo, Brazil August 5 - 16, 1974

Blinded Veterans Association National Convention
Denver, Colorado August 6 - 8, 1979

Midwest Area Rehabilitation Teachers (MART) Conference,
Sioux Falls, South Dakota August 19 and 20, 1979

Midwest Regional Conference, American Association of Workers for
the Blind, Sioux Falls, South Dakota August 20 - 22, 1979

Southeastern Regional Conference, American Association of Workers
for the Blind, Daytona Beach, Florida September 10 - 13, 1979

Canadian Council for the Blind, Charlottown, Prince Edward Island,
Canada September 10 - 16, 1979

Rocky Mountain Regional Conference, American Association of
Workers for the Blind, Edmonton, Alberta, Canada
September 25 - 27, 1979

National Federation for the Blind Conference
Ft. Wayne, Indiana September 27 - 30, 1979

New England Regional Conference, American Association of Workers
for the Blind, Hartford, Connecticut October 2 - 4, 1979

California State Rehabilitation Conference, Sacramento, California
October 9 - 12, 1979

U.S. Skis Rehabilitation Teachers Association (USARTA) Conference
Chestnutt, Ohio October 10 - 11, 1979

Oregon Federation Council for Exceptional Children
Portland, Oregon October 11, 1979

Pennsylvania Federation Council for Exceptional Children
Philadelphia, Pennsylvania October 11 - 12, 1979

5. CAPITAL EQUIPMENT ACQUISITIONS

None

6. FIRMS

Not Applicable

7. OTHER ACTIVITIES

Three Optacons were converted from Model 610 Optacons to Model 810
Optacons at no cost to the government. This was done at the request
of the administrator of the program at the St. Augustine School for
the Deaf and Blind to hopefully incorporate these Optacons into a
vocational training program.

6. [illegible]

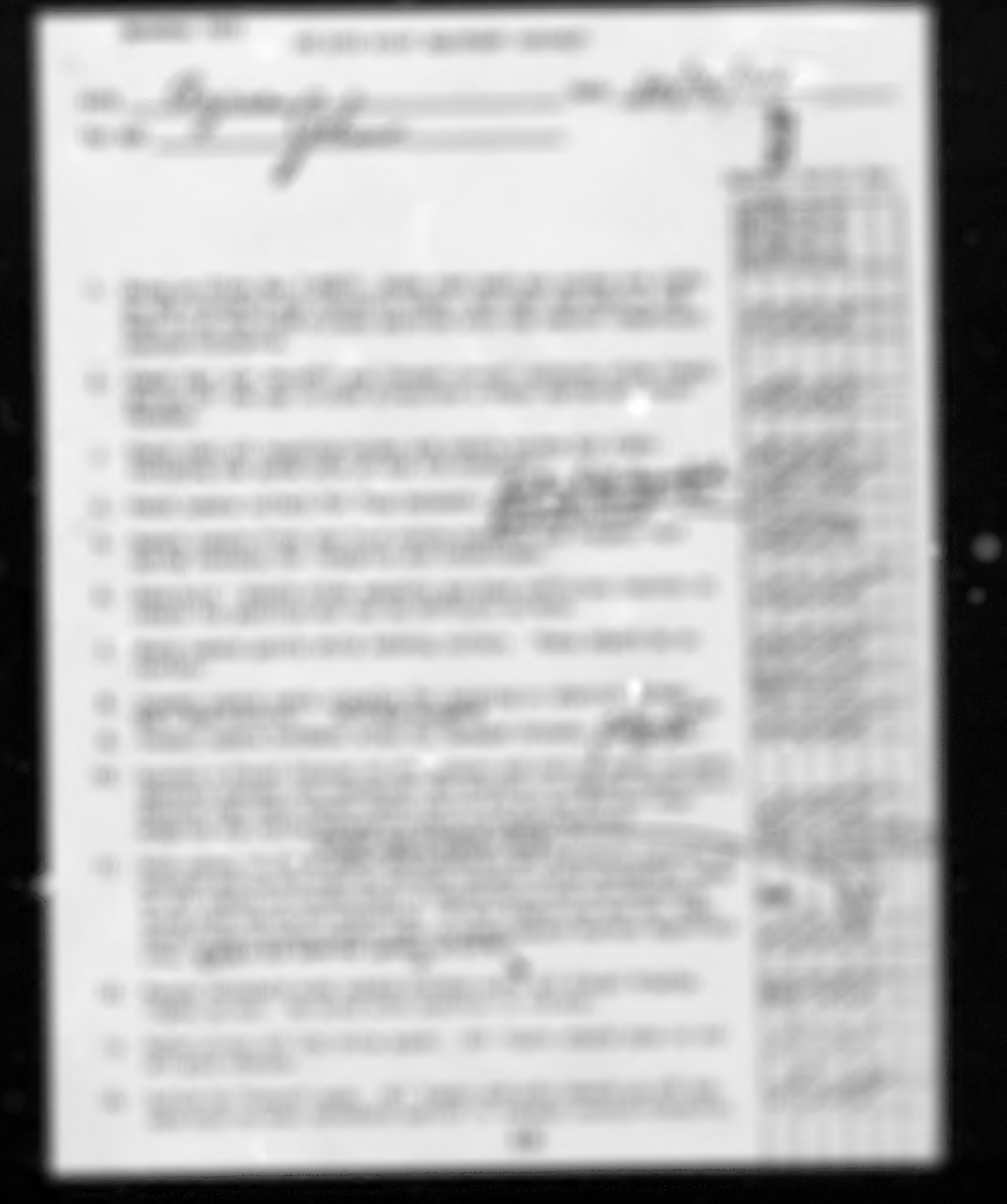
Name	Period of Appointment	Rank
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

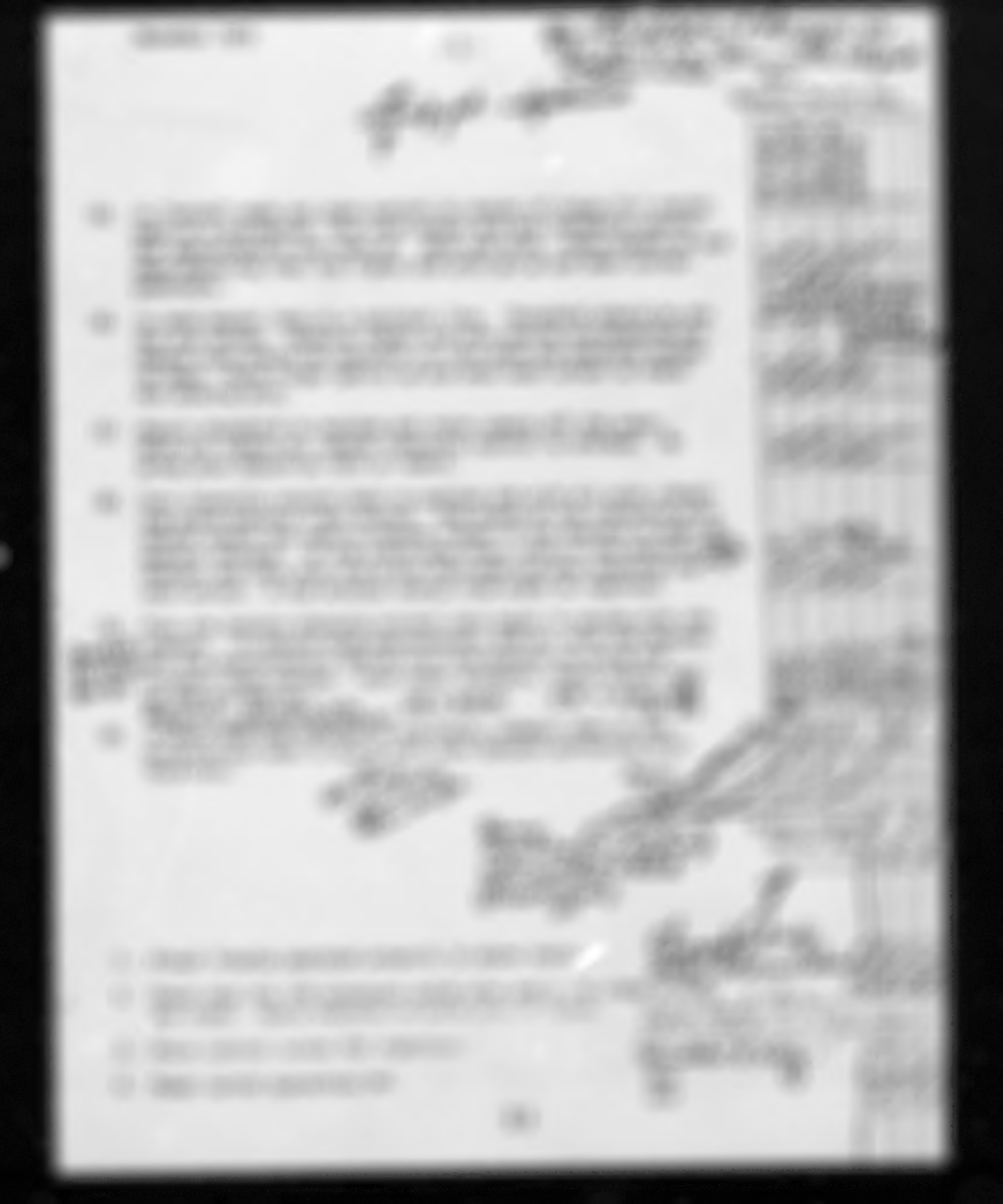
[illegible]

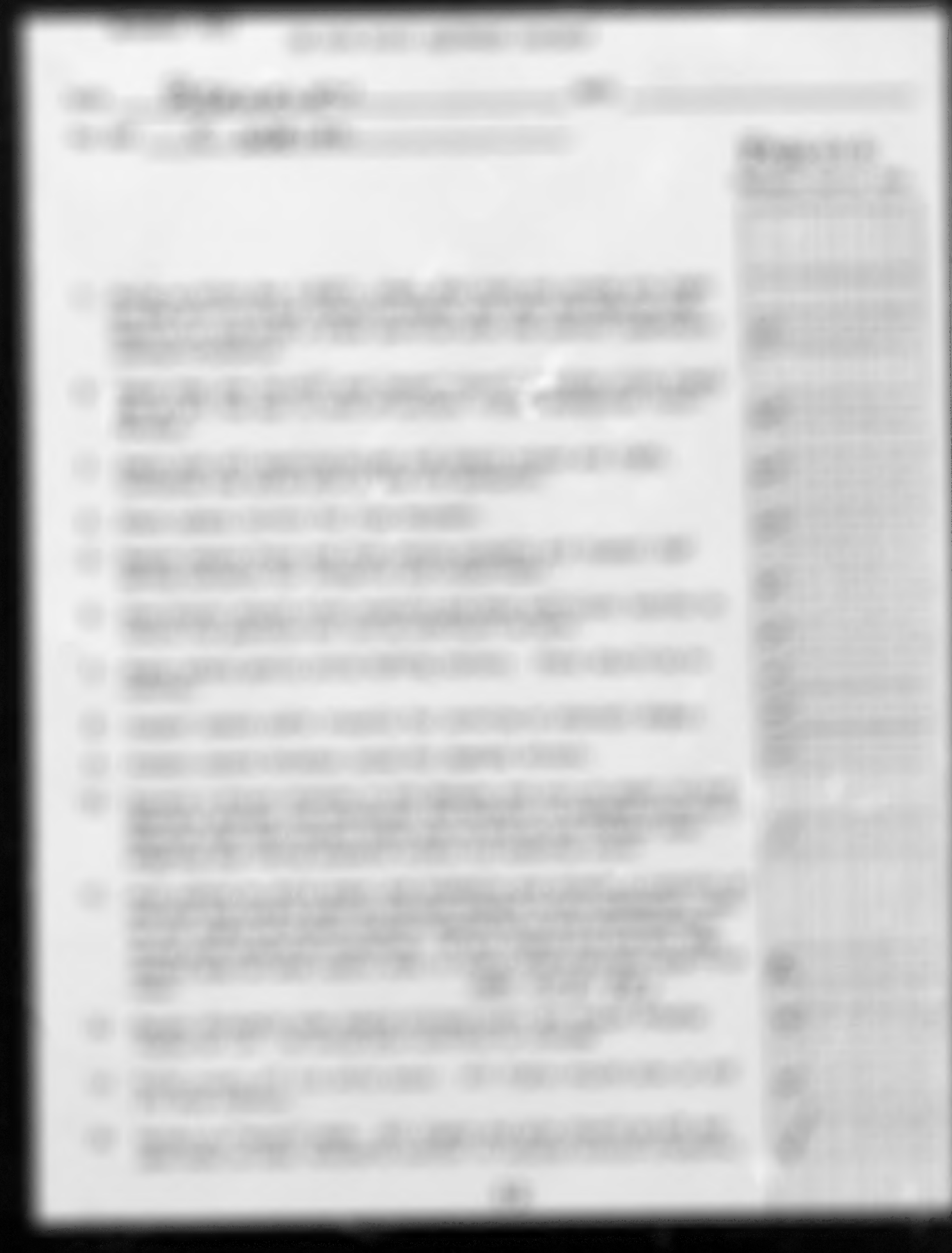
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

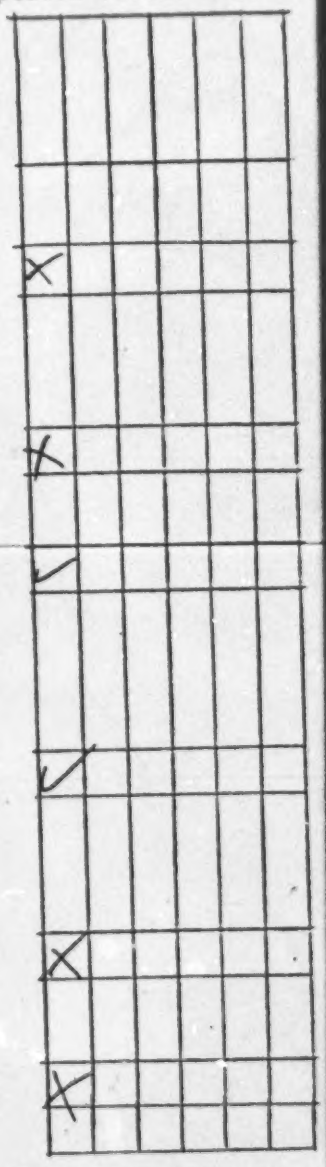






11. All light do not come on until zoom reaches mid position

Optacon Serial Nos.



15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins. 1 (2) 3 4 (5) 6

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

18. Turn intensity control back to maximum and with all pins vibrating press battery check switch. The sound of the vibrating pins should remain the same or become higher if the battery is adequately charged. If the pitch goes down, plug in the battery charger and note that the pitch then goes up when pressing the test switch. A few minutes charge time might be required.

19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

Visual Display
Serial Nos.

1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

4. Power switch operations OK. ..... New
Old

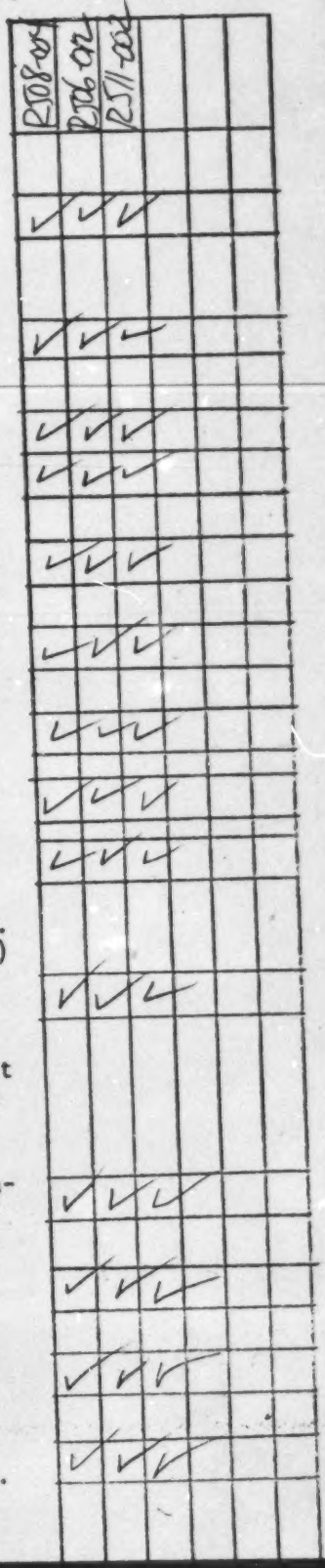
November 1973

OE SITE VISIT EQUIPMENT CHECKOUT

SITE CAMPBELL SCH. DIST. - MONROE DATE 10-10-74

TSI REP CLARK ALBIN

Optacon Serial Nos.



1. Using an Allen Key (.035"), check that both set screws are tight on the threshold and intensity knobs, and that the bump on the knob is at the 6:00 o'clock position with the control completely counter-clockwise.

2. Check that the "on-off" and "normal-invert" switches slide freely and go all the way in both directions without mechanical interference.

3. Check that all mounting-screws and camera screws are tight, including the guide pins of the I/O connector.

4. Check camera rollers for free movement.

5. Remove camera front end from retina assembly and inspect leaf spring contacts for integrity and cleanliness.

6. Zoom button should slide smoothly and have sufficient tension to retain its position but not be difficult to move.

7. Shake camera gently while holding rollers. There should be no rattles.

8. Inspect camera cable visually for twisting or physical damage.

9. Inspect camera holddown screw for damaged threads.

10. Connect a Visual Display to the Optacon and turn on power to both. (Battery charger not connected, but battery in charged condition.) Observe that both camera lamps are on and do not flicker when wiggling the retina assembly within its mounting slots.

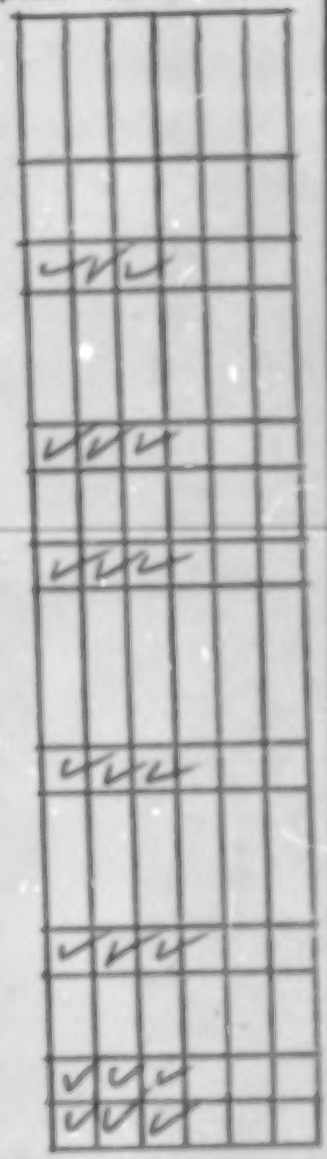
11. With camera on white paper and intensity and threshold controls at maximum and camera zoom at minimum (toward retina assembly), some or all lights on Visual Display should be on and corresponding array pins should be vibrating. If all lights are not on, they should come on when camera zoom is moved toward maximum magnification.

12. Rotate threshold knob toward minimum until all Visual Display lights go out. No array pins continue to vibrate.

13. Raise camera off the white paper. All lights should come on and all pins vibrate.

14. Switch to "invert" mode. All lights and pins should go off but come back on when threshold control is rotated counter-clockwise.

Optacon Serial Nos.



15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins.

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

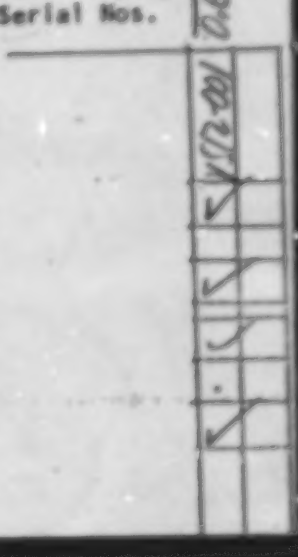
18. Turn intensity control back to maximum and with all pins vibrating press battery check switch. The sound of the vibrating pins should remain the same or become higher if the battery is adequately charged. If the pitch goes down, plug in the battery charger and note that the pitch then goes up when pressing the test switch. A few minutes charge time might be required.

19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

Visual Display Serial Nos.



1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

4. Power switch operations OK.

New
Old

OCT Serial No

1. Switches operate and pilot lamps light.
2. Tape transport operates OK and drives Visual Display
   drives Optacon
   Record Speed
   Variable Speed
   Fast forward
   Fast Rewind
3. Has correct fuses installed.
4. Cabinet screws tight.

Tracking Aid
Serial Nos.

1. Holddown screw or camera fitment proper. VERY WORN
2. Screws tight and no parts missing.
3. Operation satisfactory.

Master/Slave and Interface Cables

1. Number of cables available — Master/Slave / Interface
2. Cable clamp screws tight.
3. Connector guide pins tight. Apply locktite if not.

November 1973

DE SITE PERSONNEL PRESENT

	Name	Title
1.	SUSAN LAUGHT	CATALOG COORDINATOR
2.		
3.		
4.		
5.		
6.		
7.		
8.		

TSI printed materials left: _____

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Comments and/or Discussion: LS06-012 Zoom button was very difficult to move. Installed via loss module (PMT) left new battery charge.

November 1973

OS SITE VISIT EQUIPMENT CHECKOUT

SITE Goldfield S/R SITE - Weekly #5 DATE 12-19-74

TEST BY Richie Waldron

Synapse Serial No.

1. Using an Allen key (.050"), check that both set screws are tight on the threshold and intensity knobs, and that the loop on the knob is at the 6:30 o'clock position with the control completely counter-clockwise.

2. Check that the "on-off" and "normal-invert" switches slide freely and go all the way to both directions without mechanical interference.

3. Check that all mounting-screws and camera screws are tight, including the guide pins at the I/O connector.

4. Check camera rollers for free movement.

5. Remove camera front and free resting assembly and inspect leaf spring contacts for integrity and cleanliness.

6. Loan button shield slide assembly and have sufficient tension to retain its position but not be difficult to move.

7. Shake camera gently while holding rollers. There should be no rattles.

8. Inspect camera cable visually for kinking or other visual damage.

9. Inspect camera hold-down screw for damaged threads.

10. Connect a Visual Display to the Synapse and turn on power to both. (Battery charger not connected, but battery is charged condition.) Observe that both camera lamps are on and do not flicker when adjusting the resting assembly within its mounting plate.

11. With camera on white paper and intensity and threshold controls at maximum and camera seen as minimum (toward resting assembly), some or all lights on Visual Display should be on and corresponding array pins should be alternating. If all lights are not on, they should come on when camera zoom is moved toward maximum magnification.

12. Rotate threshold knob toward minimum until all Visual Display lights go out. No array pins continue to alternate.

13. Follow camera off the white paper. All lights should come on and all pins alternate.

14. Switch to "inverse" mode. All lights and pins should go off but come back on when threshold control is rotated counter-clockwise.

© CAMIL THEITEMAN

[illegible]

15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins.

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

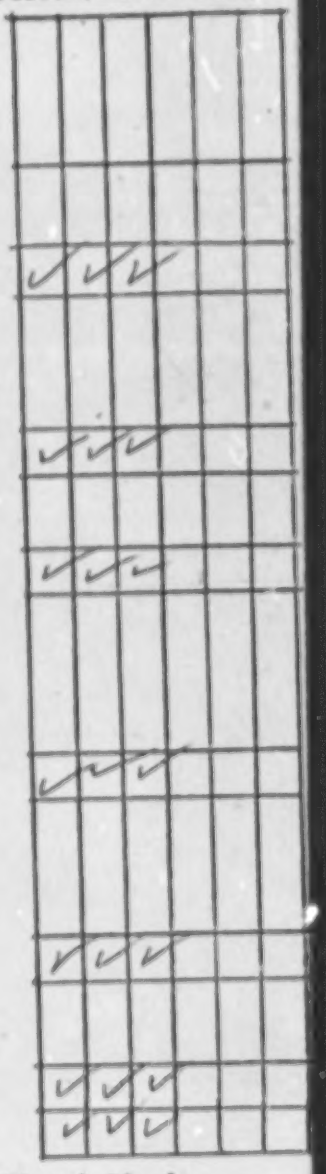
18. Turn intensity control back to maximum and with all pins vibrating press battery check switch. The sound of the vibrating pins should remain the same or become higher if the battery is adequately charged. If the pitch goes down, plug in the battery charger and note that the pitch then goes up when pressing the test switch. A few minutes charge time might be required.

19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

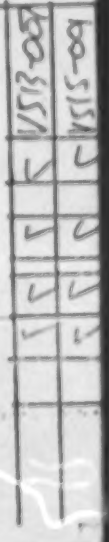
20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

Optacon Serial Nos.



Visual Display Serial Nos.



1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

4. Power switch operations OK.

New
Old

OE SITE PERSONNEL PRESENT

	Name	Title
1.	MARY PINKLETON	
2.	MARY DIECKMANN	
3.	BARBARA GALLIGAN	
4.		
5.		
6.		
7.		
8.		

TSI printed materials left: _____

_____

_____

Comments and/or Discussion:

MEMO

October 15, 1974

To: Marketing

From: Vito

Subject: OE Site Visit

I visited St. Augustine School for the Deaf and Blind, Department of the Blind on September 12, 1974. Checked out all the Optacons and Visual Displays totalling six Optacons and two Visual Displays. The Visual Displays were not sent back to TSI for changing of switches and front plates as requested by TSI. However, Visual Displays worked very well. After checking out Optacons, giving row and column tests, a decision was made to send all Optacons back to TSI for cleaning of arrays and total inspection of all equipment.

Contact was made with the following people: Mr. W.S. Davis, Director of the School; Mr. Angus, Principal; Mr. Johnstone, teacher and Mr. Moore, teacher.

A letter requested that three of the Optacon be changed from Model R1B Optacons to Model R1C Optacons was received at TSI. The changes were made at no cost to the government. This change was requested since it was hoped that the Optacons could be used in a future vocational training program.

VAP/jdl

November 1973

OE SITE VISIT EQUIPMENT CHECKOUT

SITE Houston Burbank Elem. School DATE 10/11/74

TSI REP Rob SAVOIE

Optacon Serial Nos.

R54[illegible]	R54[illegible]	R54[illegible]			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
	Replaced mounting				
✓	✓	✓			
	Replaced [illegible]				
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			

1. Using an Allen Key (.035"), check that both set screws are tight on the threshold and intensity knobs, and that the bump on the knob is at the 6:00 o'clock position with the control completely counter-clockwise.

2. Check that the "on-off" and "normal-invert" switches slide freely and go all the way in both directions without mechanical interference.

3. Check that all mounting-screws and camera screws are tight, including the guide pins of the I/O connector.

4. Check camera rollers for free movement.

5. Remove camera front end from retina assembly and inspect leaf spring contacts for integrity and cleanliness.

6. Zoom button should slide smoothly and have sufficient tension to retain its position but not be difficult to move.

7. Shake camera gently while holding rollers. There should be no rattles.

8. Inspect camera cable visually for twisting or physical damage.

9. Inspect camera holddown screw for damaged threads.

10. Connect a Visual Display to the Optacon and turn on power to both. (Battery charger not connected, but battery in charged condition.) Observe that both camera lamps are on and do not flicker when wiggling the retina assembly within its mounting slots.

11. With camera on white paper and intensity and threshold controls at maximum and camera zoom at minimum (toward retina assembly), some or all lights on Visual Display should be on and corresponding array pins should be vibrating. If all lights are not on, they should come on when camera zoom is moved toward maximum magnification.

12. Rotate threshold knob toward minimum until all Visual Display lights go out. No array pins continue to vibrate.

13. Raise camera off the white paper. All lights should come on and all pins vibrate.

14. Switch to "invert" mode. All lights and pins should go off but come back on when threshold control is rotated counter-clockwise.

Optacon Serial Nos.

✓	✓	=			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			
✓	✓	✓			

Visual Display Serial Nos.

15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins.

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

18. Turn intensity control back to maximum and with all pins vibrating press battery check switch. The sound of the vibrating pins should remain the same or become higher if the battery is adequately charged. If the pitch goes down, plug in the battery charger and note that the pitch then goes up when pressing the test switch. A few minutes charge time might be required.

19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

4. Power switch operations OK.

New
Old

DCT Serial No

1. Switches operate and pilot lamps light.
2. Tape transport operates OK and drives: Visual Display
   drives Ipteson
   Record Speed
   Variable Speed
   Fast Forward
   Fast Rewind
3. Has correct fuses installed.
4. Cabinet screws tight.

Trunking Kit
Serial No.

1. Holddown screw or camera fitment proper.
2. Screws tight and no parts missing.
3. Operation satisfactory.

Master/Slave and Interface Cables

1. Number of cables available — Master/Slave Interface
2. Cable clamp screws tight.
3. Connector guide pins tight. Apply loctite if not.

November 1975

GE SITE PERSONNEL PROGRAM

Name	Title
1. Seth Reed	Reactor Trainee (T)
2.	
3.	
4.	
5.	
6.	
7.	
8.	

TEI printed materials left: Nuclear Evolution Board

Comments and/or Discussion:

Seth Reed left some white powder on the inside of the case near the base of the battery. Battery charger will not operate as normally.

All units appeared to function properly when I left, but the inspection should not be done properly because there was no visual display present at the site. The flood unit would be unable to visual display, so it may have been broken.

I explained to Seth Reed why the site visit restrictions (Trainee name withheld) would be useful to TEI, but she protested my asking about her training experiences, as she felt she should already know, since she had already answered these questions DD many times before. She was not interested in any additional training, and she felt that education matters would be better

[illegible]

[illegible]

[illegible]

November 1973

OE SITE PERSONNEL PRESENT

	Name	Title
1.	MR L.E. PARMAR	PRINCIPAL
2.	MS BETTY COSTELLO	OPTACON TEACHER
3.		
4.		
5.		
6.		
7.		
8.		

TSI printed materials left: NONE - THEY WOULD LIKE NEW CATALOGUE

Comments and/or Discussion:

I spoke to Mr. Parmar and Ms Costello about their program (which they were quite pleased with and said was going very well) and demonstrated the new attachments to them.

Mr Parmar's major concerned was pending the status of the Optacons with respect to OE, and the service agreement problem after October 23, 1974. We explained that there might be a possibility of a pro rated agreement that TSI would discuss with Mr Parmar. Mr Parmar is also attempting to get funding which would buy Optacons for their trained students as they graduate (1-3 per year).

+ 6 camera holders should be sent to Overbrook as soon as the order comes in.

November 1973

OE SITE VISIT EQUIPMENT CHECKOUT

SITE LOMA VISTA DATE 10/2/74

TSI REP C. WEIHL

Optacon Serial Nos.

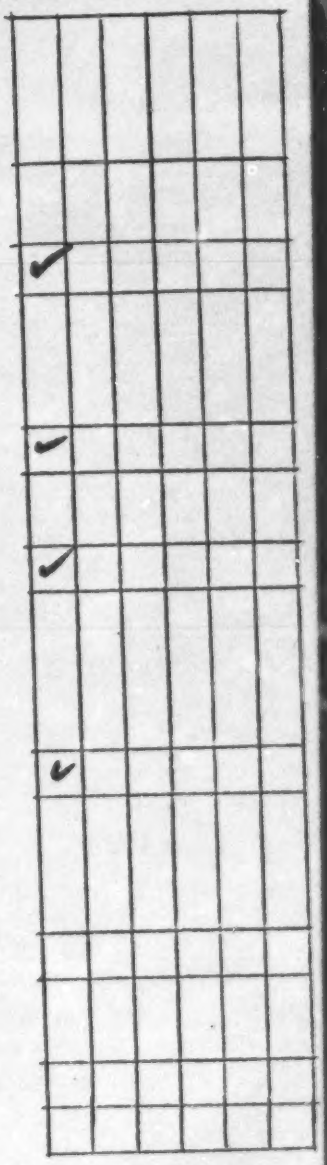
5	0	7	0	1	4

1. Using an Allen Key (.035"), check that both set screws are tight on the threshold and intensity knobs, and that the bump on the knob is at the 6:00 o'clock position with the control completely counter-clockwise. ✓
2. Check that the "on-off" and "normal-invert" switches slide freely and go all the way in both directions without mechanical interference. ✓
3. Check that all mounting-screws and camera screws are tight, including the guide pins of the I/O connector. ✓
4. Check camera rollers for free movement. ✓
5. Remove camera front end from retina assembly and inspect leaf spring contacts for integrity and cleanliness. ✓
6. Zoom button should slide smoothly and have sufficient tension to retain its position but not be difficult to move. ✓
7. Shake camera gently while holding rollers. There should be no rattles. ✓
8. Inspect camera cable visually for twisting or physical damage. ✓
9. Inspect camera holddown screw for damaged threads. ✓
10. Connect a Visual Display to the Optacon and turn on power to both. (Battery charger not connected, but battery in charged condition.) Observe that both camera lamps are on and do not flicker when wiggling the retina assembly within its mounting slots. ✓
11. With camera on white paper and intensity and threshold controls at maximum and camera zoom at minimum (toward retina assembly), some or all lights on Visual Display should be on and corresponding array pins should be vibrating. If all lights are not on, they should come on when camera zoom is moved toward maximum magnification. ✓
12. Rotate threshold knob toward minimum until all Visual Display lights go out. No array pins continue to vibrate. ✓
13. Raise camera off the white paper. All lights should come on and all pins vibrate. ✓
14. Switch to "invert" mode. All lights and pins should go off but come back on when threshold control is rotated counter-clockwise.

42

pins [redacted] RC always on even full clockwise

Optacon Serial Nos.



15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins.

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

18. Turn intensity control back to maximum and with all pins vibrating press battery check switch. The sound of the vibrating pins should remain the same or become higher if the battery is adequately charged. If the pitch goes down, plug in the battery charger and note that the pitch then goes up when pressing the test switch. A few minutes charge time might be required.

19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

Visual Display Serial Nos.

V507-003

1. Visual Display operated properly in above tests. ✓
2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose. ✓
3. Check cabinet screws for tightness. ✓
4. Power switch operations OK. ✓

New
Old

November 1973

OE SITE PERSONNEL PRESENT

	Name	Title
1.	GERALDINE CHANDLER	RESOURCE TEA.
2.		
3.		
4.		
5.		
6.		
7.		
8.		

TSI printed materials left: _____

Comments and/or Discussion:

THINK OPTACON IS OK, EXCEPT #1
CARL JORGIS WAS READING
WITH OPTACON FROM McCALL-CRABBS,
BOOK B, STANDARD TEST
LESSONS IN READING
WORKS WITH OPTACON 3 H./WK.

November 1973

OE SITE VISIT EQUIPMENT CHECKOUT

SITE PERKINS DATE 9-17-74

TSI REP ALBIN, RODGERS

Optacon Serial Nos.

✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓

1. Using an Allen Key (.035"), check that both set screws are tight on the threshold and intensity knobs, and that the bump on the knob is at the 6:00 o'clock position with the control completely counter-clockwise.

2. Check that the "on-off" and "normal-invert" switches slide freely and go all the way in both directions without mechanical interference.

3. Check that all mounting-screws and camera screws are tight, including the guide pins of the I/O connector.

4. Check camera rollers for free movement.

5. Remove camera front end from retina assembly and inspect leaf spring contacts for integrity and cleanliness.

6. Zoom button should slide smoothly and have sufficient tension to retain its position but not be difficult to move.

7. Shake camera gently while holding rollers. There should be no rattles.

8. Inspect camera cable visually for twisting or physical damage.

9. Inspect camera holddown screw for damaged threads.

10. Connect a Visual Display to the Optacon and turn on power to both. (Battery charger not connected, but battery in charged condition.) Observe that both camera lamps are on and do not flicker when wiggling the retina assembly within its mounting slots.

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13. Raise camera off the white paper. All lights should come on and all pins vibrate.

14. Switch to "invert" mode. All lights and pins should go off but come back on when threshold control is rotated counter-clockwise.

Optacon Serial No.

15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

16. In same manner look at a vertical line. Threshold should be set for one column. Observe lights and pins moving correspondingly. Camera case should be parallel to line when one complete column is seen. Move finger gently up and down each column to check for missing pins.

17. Return threshold to maximum and raise camera off the paper. With all lights on, reduce intensity control to minimum. No array pins should be felt or heard.

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19. Plug the battery charging current test meter in series with the charger. It should read approximately 220 ma. with the Optacon off and approximately 380 ma with the Optacon on using the original type charger. With newer chargers, these values will be 300 and 500 ma.

20. If more than one Optacon is available, connect them in the master/slave mode in pairs with each Optacon performing both functions.

Master
Slave

Visual Display
Serial Nos.

1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

5. Power switch operations OK.

Name
Dtd

[illegible] Serial No

1. Switches operate and pilot lamps light.
2. Tape transport operates OK and drives Visual Display drives Extension
   Rewind Speed
   Variable Speed
   Tape Forward
   Tape Rewind
3. Has correct fuses installed.
4. Cabinet screws right.

Punching Unit
Serial No.

1. Rubdown screw or variable pressure present.
2. Screws right and no parts missing.
3. Operation satisfactory.

Receiver/Sliave and Interface Cables

1. Number of cables available — Receiver/Sliave / Interface
2. Cable clamp screws right.
3. Connector guide pins right. Apply Vaseline if not.

Revised 1/93

[illegible]

Date	Title
1.	[illegible]
2.	
3.	
4.	
5.	
6.	
7.	
8.	

Any personal identifying info: _____

_____

_____

Comments and/or Discussion:

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

15. In "normal" mode set zoom control at center of range (1:1 ratio). Look at a horizontal line with camera and set threshold control for approximately two rows of lights and pins. Move camera up and down observing that the lights and pins go up and down correspondingly.

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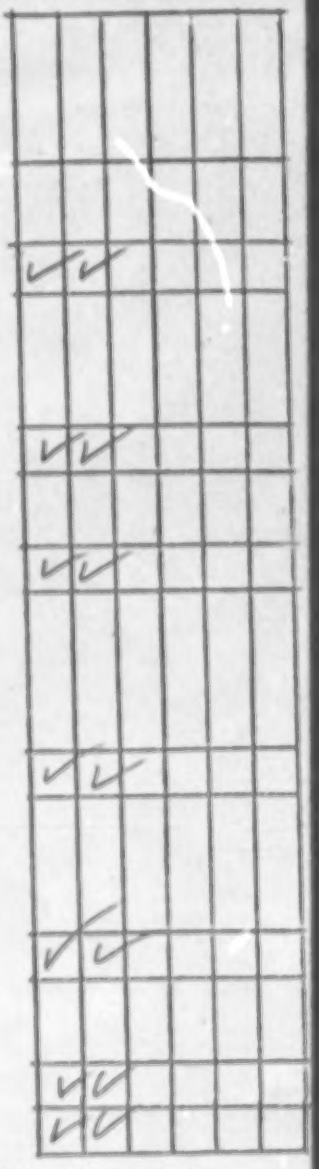
Master
Slave

Optacon Serial Nos.



Visual Display Serial Nos.

1. Visual Display operated properly in above tests.

2. Check that the I/O connector guide pins and cable clamp screws are tight. Apply locktite to guide pins if loose.

3. Check cabinet screws for tightness.

4. Power switch operations OK. ..... New
Old

November 1973

OE SITE PERSONNEL PRESENT

	Name	Title
1.	Keith Lindersmith	Optacon Coordinator
2.		
3.		
4.		
5.		
6.		
7.		
8.		

TSI printed materials left: The Optacon: A Valuable Device

Comments and/or Discussion: They expect to keep equipment, although it is not official, paperwork wise, as far as Lindersmith is concerned. He has received new training materials from A.I.R.